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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/907,232	07/17/2001	Meir Bartur	ZONI.PAU.01	6553

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EXAMINER

NGUYEN, CHAU M

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/907,232	Applicant(s) BARTUR ET AL.	
	Examiner Chau M Nguyen	Art Unit 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the Response to Restriction/Selection filed on 20 August, 2004.

Election/Restrictions

2. Applicant's election without traverse of Group I, which includes claims 1-17, and 20 is acknowledged.

Priority

3. Acknowledgment is made of Applicant's claim for priority based upon Application No. 60/230,134 filed on September 05, 2000.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 5-8, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Maekawa et al. (Hereinafter "Maekawa ") (U.S. Pat. No. 5,978,124).

As claims 1-3, Maekawa discloses an optical transmitter (see fig. 2), comprising:
a laser diode (3);
a laser driver (2, col.6, lines 5-8) having a data input for receiving input data and

providing a drive signal to the laser diode corresponding to the input data;

a laser diode power monitoring photodiode (5) for monitoring the laser optical output power and providing a laser power monitoring signal (col. 5, lines 19-24); and

an automatic power control circuit (combination of 11, 12, 13, 14, 15) coupled to the laser driver (by numerical element 14, see fig. 2) and the laser diode power monitoring photodiode (by numerical element 11), the automatic power control circuit receiving the laser power monitoring signal from the laser diode power monitoring photodiode and providing a power control signal to the laser driver (Abstract), the automatic power control circuit comprising a sample-and-hold circuit (peak detector) for detecting peak levels of the laser power monitoring signal (col. 6, lines 13-15), (as analog memory) for memory for storing said peak levels, and a comparator (14) for comparing the peak levels to a reference level and providing a different voltage (error signal), the automatic power control circuit employing the different voltage to provide the power control signal to the laser driver (col. 5, line 58-col. 2, lines 21).

As claims 5 and 6, Maekawa discloses the transmitter transmits in data bursts and wherein said transmitter receives a sleep signal between bursts (col. 1, line 8), wherein said automatic power control circuit further comprises a timing circuit (17) receiving the "0" signal (sleep signal) and a selector switch coupled to the timing circuit and receiving the power control signal as an input, the selector switch outputting the power control signal to the laser driver during burst transmission and a preset low power

sleep control signal to the laser driver between bursts under the control of the timing circuit (col. 3, lines 15-27).

As claims 7 and 8, Maekawa disclose automatic power control circuit further comprises a timing circuit (17) receiving the sleep signal and wherein said timing circuit places said peak sample and hold circuit in a hold state storing the peak level between bursts in response to the sleep signal (col. 6, lines 22-31).

As claims 12 and 13, Maekawa discloses an optical transmitter, comprising:

a laser diode (3, figs. 5 and/or 6);

a laser driver (2) having a data input for receiving input data and providing a drive signal to the laser diode corresponding to the input data, the drive signal having a modulation level for a high data input logic level and a bias level for a low input logic level;

a laser diode power monitoring photodiode providing a laser power monitoring signal; and

an analog dual loop automatic power control circuit coupled to receive the laser power monitoring signal, the automatic power control circuit comprising:

a peak and valley detector (12 and 18) for detecting peak levels of the laser power monitoring signal corresponding to the modulation level and valley levels of the laser power monitoring signal corresponding to the bias level,

a sample-and-hold circuit (as an analog level memory) coupled to the

peak and valley detector for storing said peak levels and valley levels,

a first amplifier (14) for amplifying the difference between the peak levels and a first reference level and providing a modulation error signal, and

a second amplifier (19) for amplifying the difference between the valley levels and a second reference level and providing a bias error signal,

the automatic power control circuit controlling the modulation level of the laser driver drive signal in response to the modulation error signal and controlling the bias level of the laser driver drive signal in response to the bias error signal (col. 8, line 27 – col. 9, line 31).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maekawa (U.S. Pat. No. 5,978,124), as applied in the claim 1, and in further view of Maione et al. (Hereinafter "Maione") (U.S. Pat. No. 4,019,048).

As claims 4 and 14-17, Maekawa fails to show a low pass filter coupled to the amplifier and filtering the error signal from the amplifier and providing the filtered error signal as said power control signal. However, Maione discloses comparator (330 and/or

33, see fig. 3) comprising an amplifier and power control circuit (311) comprising a low-pass filter (334, 337 and/or 342, see fig. 3) coupled to the amplifier and filtering the error signal from the amplifier and providing the filtered error signal as power control signal (col. 8, line 62 – col. 9, line 25 and col. 9, lines 56-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use low-pass filter in the control circuit as taught by Maione into the system of Maekawa in order for extracting or filtering the error signal and providing error signal as power control signal. One would have motivated for using filter with the advantage of eliminating the bias (DC) portion of signal, in turn, output only a AC portion of error signal.

8. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maekawa (U.S. Pat. No. 5,978,124), as applied in the claim 1, in view of Kobayashi (U.S. Pat. No. 6,480,314 B1).

As claims 9-11, Maekawa fails to show a shut-off control circuit, coupled to the automatic power control circuit, for powering down the laser driver if the monitored power exceeds a preset safety level. However, Kobayashi discloses a cut-off circuit (40, fig. 7) for powering down the laser driver if the monitored power exceeds a preset safety level (col. 11, lines 37-44). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to provide a shut-off control circuit as taught by Kobayashi into the circuit of Maekawa in order to protect the circuit

in case of the power exceeding the predetermined value. One would have motivated for doing this for the safety of the operator in case of emergency as mentioned by Kobayashi (col. 3, lines 2-5).

9. Claim 20 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Maekawa (U.S. Pat. No. 5,978,124) in view of Yoshinaga (U.S. Pat. No. 6,333,801 B1).

As claim 20, Maekawa discloses a method for transmitting data over an optical network in a burst mode, comprising:

providing modulated light to an optical fiber in a burst, the burst comprising a plurality of data bits (col. 1, lines 6-9);

monitoring the output optical power of the modulated light (col. 3, lines 8-9);

sampling the monitored output optical power (col. 3, lines 30-35);

comparing the sampled optical power to a reference value;

providing an error signal based on the difference between the sampled optical power and the reference value (col. 5, lines 36-40);

controlling the transmitted optical power based on the error signal (col. 5, lines 26-32);

storing the sampled optical power level until transmission of the next burst (col. 5, lines 44-51).

Maekawa also mentions an idle (sleep mode) time in transmission between bursts (col. 12, lines 44-48), but did not clearly show the step of placing the transmitter

in a low power sleep mode. However, Yoshinaga discloses a standby mode (sleep mode) with low power consumption (Yoshinaga, Abstract, lines 1-5). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate a standby mode (sleep mode) with low power consumption as taught by Yoshinaga into the idle mode of Maekawa in order to save power, with the advantages of, in turn, to reduce the load to the CPU or controller (Yoshinaga, col. 1, lines 65-67 and col. 2, lines 26-29).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yoshida et al. (U.S. Pat. No. 6,480,308 B1) is cited to show optical communication apparatus.

Ikeuchi et al. (U.S. Pat. No. 6,795,656 B1) is cited to show optical transmission circuit using semiconductor laser.

Sato (U.S. Pat. No. 6,583,910 B1) is cited to show optical transmitter and optical communication system using the same.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau M Nguyen whose telephone number is 571-272-3030. The examiner can normally be reached on Mon-Fri from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.M.N.
Sept. 24, 2004



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